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ARBOR DAY,

ONTARIO.

SUGGESTIONS AND REGULATIONS

IN REGARD TO ITS OBSERVANCE BY

SCHOOL TRUSTEES, TEACHERS AND PUPILS

IN ONTARIO.



TORONTO :

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1887.

The accompanying suggestions are designed to aid school trustees, teachers and pupils, in carrying out the Departmental Regulations in regard to the observance of Arbor Day throughout Ontario.

It is a matter of sincere congratulation to see how generally and heartily all parties concerned in our schools have entered into the practical work of duly observing this pleasant and useful holiday. This feeling and sympathy with the prosecution of so beneficent a work have shown themselves very generally elsewhere, especially in the United States. The value of Arbor Day as an educating agency is thus referred to by the Hon. John Eaton, late United States Commissioner of Education. He says :—

“ In several States of the American Union there is a growing disposition among school officers to avail themselves of this effective means of culture, and to foster a spirit in the community which will facilitate the operation of laws passed for the encouragement of tree planting and the protection of trees ; in Connecticut, especially, the late energetic Secretary of the State Board of Education, Hon. B. G. Northrop, inaugurated a movement which is improving the surroundings of schools in the rural districts almost beyond recognition, and in West Virginia the commendable efforts of the Department of Public Instruction, under the direction of Hon. B. L. Butcher, have resulted in similar improvements. The work of Dr. Peaslee, City Superintendent of Cincinnati, in the same direction, has also been especially successful.”

The prosecution of this work on Arbor Day, will prove in Ontario, as it has elsewhere, a highly valuable and “ effective means of culture,” and as such is commended to the special attention of trustees, teachers and pupils.

J. G. H.

Education Department, March, 1887.



ARBOR DAY.

REGULATIONS OF THE EDUCATION DEPARTMENT.

I.—THE REGULATIONS IN REGARD TO SCHOOL ACCOMODATION, PRESCRIBE :—

(3) That the school grounds should be properly levelled and drained, planted with shade trees and enclosed with a substantial fence.

II.—THE GENERAL REGULATIONS ALSO PRESCRIBE AS FOLLOWS :—

Arbor Day.

302. The first Friday in May should be set apart by the trustees of every rural school and incorporated village for the purpose of planting shade trees, making flower beds and otherwise improving and beautifying the school grounds.

III.—SUGGESTIONS FOR CARRYING OUT THE DEPARTMENTAL REGULATIONS.

Preliminary Note.—Now that Arbor Day in spring is one of the school institutions of the province, it is desirable that the school grounds, and the outside strip in front of the school house and on the street, or road side, should be judiciously planted. Care should be taken to select the most suitable trees and shrubs for that purpose, considering the nature of the soil and the size of the school lot, etc. Flowers, too, should be provided for the beds in front of the buildings, and, if practicable, at the sides of the walks leading to the school entrances.

1. Trees and Shrubs best adapted to our Climate.

Mr. R. W. Phipps has furnished the Minister of Education with a list and explanatory information on this subject, from which the following is taken, viz. :—

The trees which experience proves to be best adapted to our Canadian

climate are divided into several classes. First, the deciduous trees, which are easily grown—that is to say, they have fibrous roots, rendering them easy to transplant. The young saplings, as they stand in the undergrowth of the forest, will be found with sufficient roots, if care be taken, to transplant well. The term deciduous is applied to all trees not evergreen.

Maples.—Native Hard Maple (*acer saccharinum*); Scarlet or Soft Maple (*acer rubrum*); Silver Leaf Maple (*acer dasycarpum*); Norway Maple (*acer platanoides*); Ash Leaved Maple (*acer negundo*); [*aceroides negundo* of Dr. F. B. Hough, see paragraph No. 2 page 5.]

Elms.—American or White Elm (*ulmus Americana*); Cork Barked or Winged Elm (*ulmus inflata*); Scotch or Wych Elm (*ulmus montana*). (See paragraph No. 2 page 5).

Lindens.—European Linden (*tilia Europæa*); Basswood (*tilia Americana*).

Ash.—Native, white (*fraxinus Americana*); European Ash (*fraxinus Europæa*).

Chestnuts.—Horse Chestnut (*æsculus hippocastaneum*); Sweet Chestnut (*castanea Americana*).

Mountain Ash.—(*Pyrus Americana*).

The following native trees are also well adapted for transplanting, but they cannot be handled like the former, owing to their having but few roots. There are two ways of treating them—one, to plant the nuts where the tree is to grow, the other to transplant them several times when young. This gives them a mass of roots of far more certain growth for planting in their ultimate position.

Hardwood Trees, such as Hickory (*carya*); Oak (*quercus*); Beech (*fagus*); Walnut (*juglans*).

The time for planting all of the above is in spring, from the time the frost leaves the ground till May 15th. The season, however, can be prolonged to the 15th June, by observing to cut back the tops of the trees. In the fall the time of planting may be from the 20th of October till the ground is frozen too hard for digging. When planting them care should be taken to strip the leaves off, as the sap remaining in the trees soon evaporates through the leaves, causing them to shrivel up and so destroy their chance of growth.

The next class peculiarly suited for transplanting is the evergreen. Those of the spruce and cedar variety are grown more easily than pines or junipers, as they have a greater quantity of good roots. This class comprises the White or Native Spruce (*abies alba*), Norway Spruce (*abies excelsa*), Balsam Spruce or Fir Proper (*thuja balsamifera*), Hemlock (*abies Canadensis*), White Cedar (*thuja occidentalis*). The spruce and cedar family will grow in damper situations than will the pines, but all succeed better in fairly drained soil.

The next variety of evergreen is the pine. Unless transplanted several times when young, these do not throw out many roots, and those thrown out are fine, long and easily disbarked, unless great care be taken in removing them from the soil. The most suitable varieties are:—

Pines.—White Pine (*pinus strobus*); Weymouth Pine (*pinus cembra*); Norway Pine (*pinus rubra*); Austrian Pine (*pinus Austriacea*); Scotch Pine (*pinus sylvestris*).

The planting season for all these evergreens is from May 15th to June 15th, or just as the buds are commencing to burst.

The last which need be noted is the larch.

Larches.—European Larch (*larix Europæa*) ; Native Larch, Tamarack (*larix Americana*).

This tree may be termed a deciduous evergreen, and succeeds best when planted late in the fall or the first thing in spring. It commences to grow with the first warm rays of the sun, but is uncertain unless great care is taken to keep it damp. This advice is meant in case of large trees, such as those five to seven feet high. Small trees are grown more easily.

With respect to soil, all trees thrive best in well-drained soil, varying from a sandy loam to a clay soil, not of too stiff a nature. A clay loam suits all of them.

If chestnut trees be planted in spring, the heads or leaves should not be cut off, as this tree makes all its growth in the first few growing days and is then stationary for the season. The branches may, if necessary, be thinned.

When trees are finally planted, care should be taken to mulch around them with old manure, leaves, spent hops, straw, if it can be kept in place—stones laid on it do this—or other substance not injurious to growth, but never, for example, with pine sawdust or tan bark. Some cultivators prefer keeping the ground stirred to mulching.

When transplanting evergreens, the roots should never be exposed to air or light—especially sun heat—more than can be helped. The root is resinous ; if the resin hardens, the process of growth in future will be rendered impossible.

2. The Trees most suitable for School Grounds.

Dr. F. B. Hough, Chief of the Forestry Division of the United States Department of Agriculture, referring to the planting of trees in school grounds, makes the following statements and suggestions as to the best kind of trees to be planted :—

Of all the native trees of the Northern States, the American elm (*ulmus Americana*) is perhaps least liable to accident from a bruise upon the bark ; and there are few, if any, that should be more generally preferred. It carries its shade high above the level of our windows ; it is seldom broken or thrown down by the winds ; it lives to a great age and grows to a large size, and it presents a majestic and graceful outline as agreeable to the view as its spreading canopy is refreshing in its shade. The red or slippery elm might be liable to be peeled by unruly boys, for its inner bark, and should for this reason be planted only upon private grounds.

The maples are justly prized as shade trees, and the sugar maple (*acer saccharinum*) may, perhaps, be placed first on the list, as affording a dense shade and a graceful oval outline. . . . All the maples are conspicuous in the declining year from the bright coloring of their autumnal foliage. The box elder, or ash-leaved maple (*aceroides negundo*), a nearly allied species, is a favorite shade tree in the Western States, and grows well in the middle latitudes of the Atlantic States.

3. The Shrubs and Climbers most suitable for School Grounds.

In a valuable book on Rural School Architecture, recently issued by the United States Commissioner of Education at Washington, a list of shrubs is given, to which additions are made suitable to Canada, viz :—

The Missouri currant, Barberry, Weigelia, Cornel, Laurel, Lilac, Roses, (white, yellow, and red), Viburnum or Guelder rose, California privet, Forsythia, Spiraea, Tartarean honeysuckle, Dogwood, Deutzia.

To these I add the following, which will grow freely in any part of Ontario, viz. :—Syringa, Yellow flowering currant, Hydrangea, Snowberry, Ashberry, etc. Of climbing plants I may mention the Virginia Creeper, Clematis, *Bigonia radicans*, Japanese Ivy, Birthwort, Roses, etc.

The Wisconsin State Superintendent of Schools adds :—

“Damp spots may be improved by covering them with clusters of the beautiful *pyrus japonica*, and porches may be ornamented by climbing vines, such as ivy (English, German, Japanese, or the small leaved varieties), woodbine, or wistaria, roses and honeysuckles [*Virginia creeper*, trumpet flower, clematis, etc.]; and if any one will take the trouble to sow the seeds in spring, the red and white cypress vines, the fragrant jessamine, morning glories, and the purple and white Japanese clematis, may be added. . . .

“It is best to plant several varieties of shrubs together in clumps. The dark evergreens or the holly and laurel then set off the brighter kinds, and the mutual protection which they afford each other against the winds helps the growth of all.”

4. Suggestions as to the Planting of Trees in School Grounds.

Dr. F. B. Hough, Chief of the Forestry division of the United States Department of Agriculture, as quoted above, makes the following useful suggestions :—

1.—AS TO THE ROOTS.

“To secure success trees should be selected from nursery plantations, or from those that have sprung up in open places, such as the seedling trees along fences, so that there may be *an abundance of the small fibrous roots*. Without this precaution they will be very liable to fail. It should be further borne in mind, that if the roots are much exposed to the sun, or to a cold, or drying wind, their vitality may be soon lost. Great care should be taken, if they are brought from an adjoining place and planted immediately, to retain as much soil among them as possible, and to prefer a damp and cloudy day. By placing the roots of the trees as soon as they are drawn from the ground upon a coarse, strong piece of canvas, and binding it around them, this object may be best secured. Straw or moss, a little dampened, will serve the purpose very well, and sometimes the trees may be set in a box or barrel, with some of the better soil in which they grew, for their removal. Sometimes trees may be removed in winter with great advantage by digging a trench around them in the fall and allowing the earth to freeze, so that a disk, including the tree and its roots, may be removed entire. . . . The ends of the broken roots should be cut off smooth before the tree is planted.

2.—AS TO TRANSPLANTING.

“The holes for the trees should be always made before the trees are brought on the ground. They should be somewhat larger and deeper than those needed in common planting on private lands, because it is desirable to give the trees the best possible opportunity at the start. The surface soil being generally the best, should be thrown up on one side, and the poorer soil from below on the other. In filling in, the better soil should be returned first, so as to be nearer the roots. In hard clayey soils great advantage is gained by digging the holes in the fall, so that the earth may be exposed to the weather through the winter. The holes might be loosely covered with boards when necessary. If the soil be somewhat sterile, a waggon-load of rich loam, compost, or wood’s earth, placed below and around the roots, would be the cheapest means for insuring success. In applying manures, care should be taken that they be placed below and near, but not in contact with the roots. In setting the tree it should be placed a trifle deeper than it stood before, the roots should be spread out so that none are doubled, and fine rich soil should be carefully sifted in among them so as to fill every space. Sometimes the roots are dipped in a tub containing a thin mud of rich soil before they are set. In any event, unless the soil is evidently damp enough, the trees should be well watered as soon as they are planted, and this process in dry seasons should be repeated from time to time through the first and second years.”

5. Physiological advantage of Trees—their relative Position.

The Wisconsin State Superintendent further adds:—

“The constant care for these shrubs and trees and their unrivalled beauty help to educate the children; their shade is very grateful in the summer; they cool the atmosphere in the hot days by condensing moisture upon their leaves at night, and by evaporating vast amounts of it through their leaves in the day time; they absorb or destroy the poisonous gases and the noxious exhalations often found about the school buildings; and they produce a constant motion in the atmosphere, tending towards slight and healthful breezes.

“No shrub or tree should be planted . . . near the school building, where it will interfere with the light admitted through the windows.”

6. Suggestions as to Flower Beds.

As to flower beds suggested, the variety of annuals is so numerous that it is not necessary here to name any. A writer, already quoted, says:—

“A judicious selection of seeds, supplemented by slips from private gardens and young shoots transplanted from the woods, will cost almost nothing; while the civilizing influence of their beauty upon the children’s minds, together with the pride and interest which their gardening operations will awaken, should not be undervalued.”

7. Collection of Native Woods.—Its Usefulness and Value.

Speaking of the value and usefulness of collections of native woods made by pupils of a school, Dr. F. B. Hough, before quoted, makes the following practical suggestions as to how and why such collections should be made :—

“ There is no school house in the country, whether in city or village or rural district, which might not have at slight expense an interesting collection of the native woods of the vicinity. These specimens should be prepared by having one or more faces planed and polished or varnished to show the grain of the wood when worked to the best advantage, and another face simply planed and left in its natural color. There should be some portion of the bark, and it would be still better if there were shown in connection with the wood dried specimens of the leaves and blossoms, the fruit, and the resinous or other products. Such collections made up by the scholars, and correctly labelled, under the care of the teachers, would become object lessons of first importance as an agency for instruction. They would afford the most profitable kind of employment for the leisure hours, and might awaken a love of close observation and a thirst for further knowledge that would ripen into the best of fruits.”

